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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/550,603

07/24/2006

Josephus M. M. Van Gastel

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EXAMINER

PHAM, HOA Q

ART UNIT

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/550,603	<b>Applicant(s)</b> VAN GASTEL ET AL.	
	<b>Examiner</b> Hoa Q. Pham	<b>Art Unit</b> 2886	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 10-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10-34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____.                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/26/05</u> .   | 6) <input type="checkbox"/> Other: ____.                          |

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

2. The information disclosure statement (IDS) submitted on 9/26/05 has been considered. A copy of form PTO-1449 is attached.

### ***Drawings***

3. The drawings are objected to because: (1) figures the "Black Boxes" in figures 9-10 should be labeled. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or

"New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 10-12 and 28-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Salomon et al (6,408,090).

Regarding claim 10, Solomon et al (of record) discloses a method of placing at least one component on at least one substrate, the method comprising the steps of: placing a first component on a substrate (2), imaging the first component placed on the substrate (column 2, lines 65-67); determining, using the image of the first component, if any difference exists between an actual position of the first component on the substrate and a predetermined desired position of the first component on the substrate (column 1, line 38 to column 2, line 40 and column 3, lines 42-51); and placing a second component at another desired position on the substrate, while taking into account any such difference (claim 6 or holder device (5) in figure 1).

Regarding claims 11-12, equipment head (4) and holder (5) are considered as first and second placement machine.

Regarding claims 28-29, Salomon et al discloses a system (1) for placing at least one component (15) on at least one substrate (2), the system comprising: at least one placement machine (4, 5, 7) comprising a processor (i.e., control unit (7)); and an imaging device (i.e., camera) interfaced with the placement machine, wherein the imaging device is configured to image a first component positioned on a substrate by the placement machine, and wherein the processor is configured to determine, using the image of the first component positioned on the substrate, if any difference exists between an actual position of the first component on the substrate and a desired position of the first component on the substrate (figure 1).

Regarding claim 30, see column 2, line 65 for the use of a camera.

Regarding claim 31, column 3, lines 3-4 teaches that the sensor (10) is secured to the equipping head (4).

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 10-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van De Ven (5,880,849) in view of Salomon et al.

Regarding claims 10, 17, 18, 22-24, 28-29 and 32; Van De Ven (of record) teaches the use of a plurality of component placement units (24), each unit comprises a

robot (26), a placement head (28) fastened to an arm (27), a suction nozzle (29) for picking and placing components on the carrier, a imaging device (30, 32) and processor (31) for calculating the deviations of the components. Van De Ven does not explicitly teach that the camera and processor can be used for determining the difference exists between an actual position of the first component on the substrate and a predetermined desired position of the first component on the substrate and placing another component at another desired position on the substrate. However, such a feature is known in the art as taught by Salomon et al. Salomon et al (of record) discloses a method of placing at least one component on at least one substrate, the method comprising the steps of: placing a first component on a substrate (2), imaging the first component placed on the substrate (column 2, lines 65-67); determining, using the image of the first component, if any difference exists between an actual position of the first component on the substrate and a predetermined desired position of the first component on the substrate (column 1, line 38 to column 2, line 40 and column 3, lines 42-51); and placing a second component at another desired position on the substrate, while taking into account any such difference (claim 6 or holder device (5) in figure 1). It would have been obvious to one having ordinary skill in the art at the time the invention was made to include in Van De Ven a step of comparing the actual position of the component with a predetermined desired position on the substrate as taught by Salomon et al if additional measurement is desired.

Regarding claims 11-13, the placement units (24) are considered as first and second placement machine.

Regarding claims 14-16, 19-21, 25-27, 30-31; Van De Ven teaches the use of an imaging device (30,32) and Salomon teaches the use of a camera (column 2, line 65).

Regarding claims 28-29, Salomon et al discloses a system (1) for placing at least one component (15) on at least one substrate (2), the system comprising: at least one placement machine (4, 5, 7) comprising a processor (i.e., control unit (7)); and an imaging device (i.e., camera) interfaced with the placement machine, wherein the imaging device is configured to image a first component positioned on a substrate by the placement machine, and wherein the processor is configured to determine, using the image of the first component positioned on the substrate, if any difference exists between an actual position of the first component on the substrate and a desired position of the first component on the substrate (figure 1).

Regarding claim 33, see control unit (7) of Salomon et al or processor (31) of Van De Ven.

Regarding claim 34, see the use of different placement units of Van De Ven or holder devices (5) of Salomon et al.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Following references relate to component placement machine: Pasqualini et al (2006/0153426 A1), Gieskes (5,739,846), Hudson et al (US 2002/0030736 A1) and Nishiwaki et al (US 2006/0048383 A1).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoa Q. Pham whose telephone number is (571) 272-2426. The examiner can normally be reached on Monday through Friday, 8:00AM TO 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tarifur Chowdhury can be reached on (571) 272-2287. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Hoa Q. Pham/  
Primary Examiner, Art Unit 2886

HP  
July 20, 2008